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## Journal of Forensic and Legal Medicine

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## Book Review

**Handbook of Analytical Separations, M.J. Bogusz (Ed.). 2nd edition, Forensic Science, Vol. 6, Elsevier (2008). Price £196 ISBN: 978-0-444-52214-6**

This volume is an updated version of the original volume (at that time Volume 2 in this series) published 6 years previously. Chapters relating to drugs and toxicology account for 80% of the book (>800 pages) and the information contained within this part of the book is very detailed.

The preface defines the purpose as being "...to present critical, up-to-date information on the separation methods applied in various disciplines of forensic science." It then cautions that it "...cannot and should not replace a scientific paper in regard to the depth and coverage of a specific problem." However, within the book is a vast amount of information and it serves as an invaluable resource to drug chemists and toxicologists. The remainder of the book, Parts 4 and 5, deals with 'Forensic Chemistry', including explosives, chemical warfare agents, fire debris and inks on documents and 'Forensic Identification of Individual and Biological Traces' with chapters on forensic DNA typing technologies, mitochondrial DNA and Y-chromosomes. There is much less detail in these latter two Parts.

The first three Parts of the book look at 'Compounds of Importance in Forensic Toxicology', 'Screening Procedures in Forensic Toxicology' and the intriguingly entitled 'Actual and Emerging Problems of Forensic Toxicology'. The first Part includes information on drug/drug classes, with separate chapters on many drugs of abuse, with a lot of detail on analytical methodologies with, in some, immunoassay included too. Analysis of plant material and 'street drugs' are included where appropriate in some chapters.

The second Part looks at more general screening procedures, with chapters by analytical technique, including one for certain elements by HPLC-ICP-MS as well as the more widely used GC, GC-MS, HPLC, LC-MS screening methodologies.

Part 3, 'Actual and Emerging Problems of Forensic Toxicology', as the name implies, considers a wide range of issues such as markers of alcohol consumption, toxicological aspects of herbal remedies, drugs and driving, unconventional samples and alternative matrices, doping in human and animal sports, pharmacogenomics and the all-important quality assurance. Despite the

diverse nature of this Part it includes a wealth of useful information.

The Chapter concerning alternative matrices includes hair and oral fluid and although these sections are rather short there are still plenty of references for the reader to pursue.

All chapters of the book contain a very comprehensive list of references and some include reviews of certain papers, making them even more useful. In reality this is rather more than a book on analytical separations as it includes information on, for example, drug metabolism and interpretational challenges in some chapters. Indeed some of these additional articles are very comprehensive.

There appeared to be no information concerning analysis of the emerging so-called 'legal highs', such as benzylpiperazines and numerous other designer drugs, and this would be useful in the next edition as this is a rapidly expanding area of drug misuse. GHB also seemed to be notable by its absence which would have been useful to some potential readers. The different presentation of information and inconsistencies in content between chapters within the same part of the book makes it less easy to use and less comprehensive than it otherwise could have been.

Despite these minor criticisms this is a very worthwhile purchase for any laboratory undertaking drug and/or toxicological analysis since it contains a wealth of information.

## Conflict of Interest

None declared.

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Available online 9 June 2009